L'UNDH et al. Appl. No. 09/514,144 September 3, 2003

## AMENDMENTS TO THE SPECIFICATION

Please amend the paragraph beginning at page 2, line 1, as follows:

b/

A number of Several methods for link redundancy are present on the market that require the applications running at the node to closely participate in any changeover process from a first link to a redundant second one. Thus, as shown in Figure 2, a switch node is viewed as a number of layers ranging from, in the example of Figure 2, power distribution in the bottom layer 28 up to network layer routing and/or connection termination functions with application processing in the upper layer 20. The problem commonly associated with the prior art is that the upper layers (20) that run an application are involved in a changeover process from one interconnection link to another (at layer 22). Redundancy operations at layer 22 should occur independently, as much as possible, of the operations of the application in layer 20. If possible, redundancy changeovers at layer 22 should have no or very small interaction with other layers in Figure 2.

Please amend the paragraph beginning at page 2, line 17, as follows:



The present invention isolates the interconnection link redundancy layer by means of specific methods for re-routing of traffic flows, either packets or cells, from a failed first interconnection link to another redundant such link between interconnected switch modules, without any involvement of functions in the higher layer. When a connection is set up, a state condition is determined as to "which one within a pair of switch module interconnection links is the primary link over which the packet flow on the connection shall be routed. A corresponding routing tag is then attached to each packet on the node-internal connection. If the state of the selected interconnection links changes to a non-operational state, the packet routing will be changed by means of changing the translation of the routing tag within the interconnection link layer so that the packets will be forwarded via the secondary link." With the present invention, interconnection

L'UNDH et al. Appl. No. 09/514,144 September 3, 2003



<u>Interconnection</u> link redundancy is obtained with minimal interaction to the application layer.

Please amend the paragraph beginning at page 6, line 19, as follows:



Each switch module 31 and 32 can be viewed in terms of its layering, as shown in Figure 2. In the example embodiment of Figure 2, the lowest layer of switch module 31 is power distribution 28. Moving up from the power distribution layer 28, one would find, in order, clock functions 26, ATM switch planes 24, interconnection links 22, and network layer routing and termination devices 20. Ideally, each of the layers 20-28 includes its own redundancy which is as independent as possible from other layers. Thus, as shown in Figure 2, power distribution layer 28 is redundancy terminated (e.g., via diodes), if possible with supervision. Redundancy operations for layer 28 26 will detect a faulty timer unit or clock reference and will change the unit or reference source when needed. For layer 24, the redundancy operation detects a faulty switch plane and redirects devices to another plane. Thus, one can see in Figure 3, a number of switch planes for switch core 36 with the switch planes being redundant to each other for secure operation of layer 24. At layer 22, the redundancy termination of the interconnection links is as described in the present invention herein. Specifically, layer 22 redundancy operates to detect a faulty link and re-direct devices to another link. As described above, ideally the network layer routing and termination devices redundancy terminations should be independent of the layers 22-28, to the greatest extent possible.

Please amend the paragraph beginning at page 8, line 9, as follows:



with switch core 36 to link terminations 37 and 38. When a connection is set up, the connection is configured as normal on the device boards 35 using, for example, data packet routing tag "a" when Link A 33 is intended for use (in normal circumstances). The connection is configured on both of the link terminations 37 and 38 with the same switch segment VCI and the same link segment VPI/VCI. The link terminations 37 and 38 include Switch Port Interface Modules (SPIM) communicating with the switch core

LUNDH et al. Appl. No. 09/514,144 September 3, 2003

36. Also, ATM <u>lay er layer</u> modules ALM communicate with line termination modules LTM, which provide data packets streams to the respective links 33 and 34.